

IN THE CLAIMS:

1. (currently amended) An ultrasonic imaging method comprising the steps of:

storing a reference image of a subject acquired before providing medical treatment to the subject and a scan condition used to acquire [[the]] said reference image;

reading said reference image and said scan condition, said reference image comprising a region of treatment before providing medical treatment to the subject encompassed by a region of interest;

acquiring a real-time image of the subject after providing medical treatment to the subject by setting said scan condition, ~~wherein said reference image is acquired before providing medical treatment to a subject and said real time image is acquired after providing medical treatment to the subject;~~

automatically defining the region of interest in said real-time image encompassing the region of treatment after providing medical treatment to the subject; and

displaying on an ultrasonic image display device said reference image and said real-time image side by side.

2. (original) The ultrasonic imaging method of Claim 1, further comprising the steps of:

calculating a correlation coefficient between said reference image and said real-time image throughout or partially; and

displaying the calculated correlated coefficient.

3. (currently amended) The ultrasonic imaging method of claim 2, further comprising a step of:

displaying in a hold manner the maximum value of the correlation coefficient from the beginning of acquisition of the said real-time image up to the present.

4. (currently amended) The ultrasonic imaging method of claim 2, further comprising a step of:

calculating a correlation coefficient for a region outside of ~~[[a]]~~ the region of interest defined in one of said reference image ~~or in~~ and said real-time image.

5. (currently amended) The ultrasonic imaging method of claim 2, further comprising a step of:

calculating a correlation coefficient for a correlation comparison region defined in one of said reference image ~~or in~~ and said real-time image.

6. (original) The ultrasonic imaging method of claim 1, further comprising a step of:

displaying said reference image and said real-time image superimposed in response to a command by an operator.

7. (currently amended) The ultrasonic imaging method of claim 1, further comprising the steps of:

storing a measurement result for a target region in said reference image; and

reading said measurement result and displaying ~~[[it]]~~ said measurement result when displaying said reference image.

8. (original) The ultrasonic imaging method of claim 1, further comprising a step of:

storing said reference image and said scan condition in a server on a network.

9. (currently amended) An ultrasonic diagnostic apparatus comprising:

an ultrasonic probe;

a transmitting/receiving device for driving said ultrasonic probe to transmit ultrasonic pulses into a subject and receive ultrasonic echoes from inside the subject and outputting received data;

an ultrasonic image producing device for producing an ultrasonic reference image from the resulting received data, wherein said ultrasonic image producing device is configured to produce a real-time image, said real-time image acquired after providing medical treatment to the subject;

a reference image storage device for storing said reference image, said reference image comprising a region of interest encompassing a region of treatment before providing medical treatment to the subject;

a scan condition storage device for storing a scan condition for said reference image;

an automatic scan condition setting device for reading said scan condition and setting ~~[[the]]~~ said scan condition, wherein said reference and real-time images are acquired by setting said scan condition, ~~and wherein said reference image is acquired before a medical treatment of the subject and said real-time image is acquired after the medical treatment;~~

an automatic region defining device for defining in said real-time image the region of interest encompassing the region of treatment after providing medical treatment to the subject;  
and

an ultrasonic image display device for reading said reference image and displaying said reference image and ~~[[a]]~~ said real-time image side by side.

10. (original) The ultrasonic diagnostic apparatus of claim 9, further comprising:

a correlation coefficient calculating device for calculating a correlation coefficient between said reference image and said real-time image throughout or partially; and

a correlation coefficient display device for displaying the calculated correlation coefficient.

11. (currently amended) An ultrasonic diagnostic apparatus comprising:

an ultrasonic probe;

a transmitting/receiving device for driving said ultrasonic probe to transmit ultrasonic pulses into a subject and receive ultrasonic echoes from inside the subject and outputting received data;

an ultrasonic image producing device for producing an ultrasonic reference image from the resulting received data;

a reference image storage device for storing [[the]] said reference image, said reference image comprising a region of treatment encompassed by a region of interest before providing medical treatment to the subject;

a scan condition storage device for storing a scan condition for [[the]] said reference image;

an automatic scan condition setting device for reading said scan condition and setting said scan condition;

a scan plane angular scanning device for acquiring a plurality of real-time images at different scan plane angles, ~~wherein said reference image is acquired before providing medical treatment to the subject and one of said real-time images is acquired after providing the medical treatment~~ said plurality of real-time images acquired after providing medical treatment;

a correlation coefficient calculating device for calculating a correlation coefficient between said reference image and each of said real-time images throughout or partially;

an automatic region defining device for defining in said plurality of real-time images the region of treatment encompassed by the region of interest after providing medical treatment to the subject; and

an ultrasonic image display device for displaying said reference image and one of said real-time images having [[the]] a highest correlation coefficient side by side.

12. (original) The ultrasonic diagnostic apparatus of claim 11, further comprising:

a correlation coefficient display device for displaying said highest correlation coefficient.

13. (currently amended) The ultrasonic diagnostic apparatus of claim 11, further comprising:

a correlation coefficient maximum value display device for displaying in a hold manner ~~[[the]]~~ a maximum value of the correlation coefficient from ~~[[the]]~~ a beginning of acquisition of one of said real-time images up to the present.

14. (currently amended) The ultrasonic diagnostic apparatus of claim 11, wherein said correlation coefficient calculating device calculates a correlation coefficient for a region outside of ~~[[a]]~~ the region of interest defined in one of said reference image ~~or in~~ and one of said real-time images.

15. (currently amended) The ultrasonic diagnostic apparatus of claim 11, wherein said correlation coefficient calculating device calculates a correlation coefficient for a correlation comparison region defined in one of said reference image ~~or in~~ and one of said real-time images.

16. (original) The ultrasonic diagnostic apparatus of claim 9, further comprising:

a combined-display device for displaying said reference image and said real-time image superimposed in response to a command by an operator.

17. (currently amended) The ultrasonic diagnostic apparatus of claim 9, further comprising:

a measurement result storage device for storing a measurement result for a target region in said reference image; and

a measurement result display device for reading said measurement result and displaying ~~[[it]]~~ said measurement result when displaying said reference image.

18. (currently amended) The ultrasonic diagnostic apparatus of claim 9, wherein said reference image storage device and said scan condition storage device reside in said ultrasonic diagnostic apparatus itself, and in ~~addition, in~~ a server on a network.

19. (currently amended) The ultrasonic diagnostic apparatus of claim 9, wherein said reference image storage device and said scan condition storage device reside not in said ultrasonic diagnostic apparatus ~~itself~~ but in a server on a network.